



INSIGHT

YEAR 12 Trial Exam Paper

2012

PSYCHOLOGY

Written examination 1

STUDENT NAME:

QUESTION AND ANSWER BOOK

Reading time: 15 minutes

Writing time: 1 hour 30 minutes

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	45	45	45
B	9	9	35
C	1	1	10
			Total 90

- Students are permitted to bring the following items into the examination: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring sheets of paper or white-out liquid/tape into the examination.
- Calculators are not permitted in this examination.

Materials provided

- The question and answer book of 23 pages and an answer sheet for multiple-choice questions.

Instructions

- Write your **name** in the box provided and on the multiple-choice answer sheet.
- You must answer the questions in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones or any other electronic devices into the examination.

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SECTION A – Multiple-choice questions

Instructions for Section A

Answer all questions on the multiple-choice answer sheet provided, in **pencil**.

Choose the response that is **correct**, or that **best answers** the question.

1 mark for a correct answer, 0 marks for an incorrect answer.

Marks will not be deducted for incorrect answers.

No marks will be given if more than one response is given for any question.

Question 1

Marietta was sitting under a tree in the school yard, not paying any real attention to what was going on around her. Her thoughts ranged from her last lesson, to what she would have for lunch, to where she might go on the weekend. This experience fits with the ‘stream of consciousness’ theory as proposed by

- A. René Descartes.
- B. Sigmund Freud.
- C. William James.
- D. Wilhelm Wundt.

Question 2

As Marietta was sitting in the yard, two friends approached and asked her about her weekend. Marietta then described in great detail shopping for her Year 12 formal dress and the various dresses she was considering. Which of the following **best** describes Marietta’s state of consciousness during this discussion?

- A. normal waking consciousness
- B. focused selective attention
- C. an altered state of consciousness
- D. divided attention

Question 3

According to dualism as described by Descartes

- A. the mind is a physical structure and therefore part of the human body.
- B. the mind is a metaphysical construct and is separate from the human body and brain.
- C. the mind is the same thing as the brain.
- D. the mind is a physical construct and is separate from the human body and brain.

Question 4

Daydreaming is an example of

- A. normal waking consciousness.
- B. focused selective attention.
- C. an altered state of consciousness.
- D. divided attention.

Question 5

Controlled processes are most likely to be used for a task when

- A. in an altered state of consciousness.
- B. a task is simple and well-rehearsed.
- C. little conscious effort is required.
- D. the task is complex and novel.

Question 6

Isaac had to have an operation on his knee following a sporting injury. He awoke from the anaesthetic to find that his mother was sitting by the bed and, when he next opened his eyes, she was still there. Isaac thought he had closed his eyes for just a few minutes, but his mother said she had been sitting there for over an hour. Isaac's inability to gauge how much time had passed is typical of an ASC and is an example of

- A. an emotional distortion.
- B. a perceptual distortion.
- C. a cognitive distortion.
- D. a loss of self-control.

The following information is to be used to answer Questions 7 to 12.

A researcher was interested in investigating the effects of meditation on mental wellbeing. One hundred and forty first-year university students were recruited for the study and randomly divided into two groups of 70. All participants were initially measured using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), with the researcher asking participants to indicate the degree to which their experience over the previous two weeks agreed with 14 wellbeing statements. For example, these were the first three statements:

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future.	1	2	3	4	5
I've been feeling useful.	1	2	3	4	5
I've been feeling relaxed.	1	2	3	4	5

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) © NHS Health Scotland, University of Warwick and University of Edinburgh, 2006, all rights reserved. <http://www.healthscotland.com/documents/1467.aspx> Downloaded 13th December 2011

Over a two-week period, all participants were instructed to continue with their usual daily activities. However, participants in Group 1 were required to undertake daily 30-minute guided meditation sessions for a period of two weeks, while Group 2 were not. At the end of the two-week period, the researchers again instructed all 140 participants to complete the WEMWBS, indicating their experiences over the two weeks of the study. The results were analysed and the difference in scores between the two groups was found to be significant at the $p < 0.05$ level, with Group 1 showing higher levels of wellbeing than Group 2, whose scores remained stable. The researcher, therefore, concluded that meditation had the potential to positively impact upon the mental health of the population.

Question 7

The instrument used to determine the level of mental wellbeing of the participants before and after the study is an example of a

- A. questionnaire.
- B. naturalistic observation.
- C. case study.
- D. clinical interview.

Question 8

The independent variable in this study was operationalised as

- A. the level of wellbeing at the beginning of the study measured by the score on the WEMWBS.
- B. the level of wellbeing at the end of the study measured by the score on the WEMWBS.
- C. daily 30-minute guided meditation sessions.
- D. the continuation of the usual daily activities by the experimental group.

Question 9

The researchers randomly divided the participants into two groups to ensure that

- A. all members of the control group had an equal chance of being selected for the study.
- B. all members of the experimental group had an equal chance of being selected for the study.
- C. all members of the population had an equal chance of being selected for the study.
- D. all members of the sample had an equal chance of being allocated to either the experimental or control groups.

Question 10

The result was deemed significant because

- A. there was a 5% chance that the results were due to the manipulation of the dependent variable.
- B. there was a 5% chance that the results were due to the manipulation of the independent variable.
- C. there was a 95% chance that the results were due to the manipulation of the dependent variable.
- D. there was a 95% chance that the results were due to the manipulation of the independent variable.

Question 11

The experimental design used in this case was

- A. independent groups.
- B. matched pairs.
- C. repeated measures.
- D. within participants.

Question 12

The major disadvantage of this research design is:

- A. order effects are difficult to overcome.
- B. it is a very time consuming and expensive method.
- C. the procedure needs a large number of participants to ensure that there is an even spread of participant characteristics, such as would be found in the population.
- D. the experimenter effect is very difficult to control for.

Question 13

Theta wave patterns typically show

- A. medium frequency and mixed amplitude (some high, some low) waves.
- B. a steady pattern of low frequency and high amplitude waves.
- C. high frequency and low amplitude waves.
- D. medium to high frequency and medium to low amplitude waves.

Question 14

The brainwave pattern typical of NREM Stage 4 sleep is:

- A. beta.
- B. alpha.
- C. theta.
- D. delta.

Question 15

The hypnagogic state is characterised by _____ waves and we may also experience _____.

- A. beta, hypnic jerks
- B. alpha, nightmares
- C. alpha and some theta, a sensation of falling and sudden wakening
- D. delta, somnambulism

Question 16

Muscle atonia is experienced during _____ sleep and is characterised by a/an _____ in muscle tension.

- A. NREM, increase
- B. REM, increase
- C. NREM, decrease
- D. REM, decrease

Question 17

Which of the following is characteristic of a newborn (neonate) baby's sleep pattern?

- A. approximately 16 hours of sleep with between 40 and 50 per cent spent in REM
- B. approximately 12 hours of sleep with around 25 per cent spent in REM
- C. approximately 8 hours of sleep with between 18 and 20 per cent spent in REM
- D. approximately 7 hours of sleep with around 22 per cent spent in REM

Question 18

Which of the following is one of the proposed adaptive reasons for sleep?

- A. Sleep conserves energy.
- B. Sleep repairs and replenishes the body.
- C. Sleep increases immunity to disease.
- D. Sleep activates growth hormones.

Question 19

According to research, adolescents require between _____ hours of sleep per night.

- A. 13 and 16
- B. 9 and 10
- C. 7 and 9
- D. 6 and 7

Question 20

Kristen had been studying late into the night for the past week, preparing for her end-of-semester exams and getting very little sleep. One of her teachers spoke sharply to her in class and this caused Kristen to burst into tears. Kristen's tears can be explained as an example of

- A. a physiological effect of sleep deprivation.
- B. an affective disturbance associated with sleep deprivation.
- C. impaired cognition associated with sleep deprivation.
- D. behavioural difficulties associated with sleep deprivation.

Question 21

When driving home from school the same day, Kristen fell asleep for around 15 seconds and veered off the road, almost hitting a tree. This brief period of sleep is best described as

- A. REM rebound.
- B. a nap.
- C. a microsleep.
- D. daydreaming.

Question 22

Motion after-effect is believed to be **caused** by

- A. neural defects.
- B. neural adaptation.
- C. a visual illusion.
- D. a perceptual anomaly.

Question 23

Which of the following is **not** a change condition that may result in change blindness?

- A. eye saccades
- B. eye blink
- C. very slow change
- D. spatial neglect

Question 24

Cara experienced the sensation of seeing the colour blue each time she ate a strawberry. This phenomenon is specifically known as _____ and it is commonly thought to be due to _____.

- A. a perceptual anomaly, brain damage
- B. a perceptual anomaly, a genetic predisposition
- C. synaesthesia, a tendency for greater communication between various areas of the brain that would not normally interact
- D. synaesthesia, changes in brain structure in old age

Question 25

Expressive aphasia is another term for

- A. Wernicke's aphasia.
- B. anomia.
- C. Broca's aphasia.
- D. receptive aphasia.

Question 26

MRI is considered a more effective device for diagnosing structural abnormalities in the brain than the CT scan because

- A. the radioactive tracers used in MRI scans provide a clearer image of the active brain.
- B. it uses X-rays whereas the CT scan does not.
- C. the multicoloured MRI images are clearer and more detailed than those provided by CT scans.
- D. functional information is rich and detailed in MRI scans while the CT scan does not show function.

Question 27

When preparing for her driving test, Alicia felt anxious and on edge. This response is due to the actions of the _____ nervous system, which _____ her level of arousal in preparation for the test.

- A. sympathetic, increased
- B. sympathetic, decreased
- C. parasympathetic, increased
- D. parasympathetic, decreased

Question 28

After successfully completing her test, Alicia felt much better and the nervous feeling disappeared. This is due to the body being returned to a state of

- A. autonomic arousal.
- B. heightened arousal.
- C. homeostasis.
- D. both A and B.

The following information is to be used to answer Questions 29 to 33.

Emily is a right-handed woman and has suffered from epilepsy since early childhood. The condition has not responded to medication and, in fact, has become worse over time. Emily's doctor recommended that she undergo a radical form of surgery designed to reduce communication between the two cerebral hemispheres. Emily was later asked to take part in a study designed to measure the effects of her surgery.

Question 29

The name of the surgical procedure Emily underwent is commonly known as

- A. split-brain surgery.
- B. direct brain stimulation.
- C. transcranial magnetic stimulation.
- D. hemispheric separation.

Question 30

This surgery was most effective in reducing her epileptic seizures because

- A. an implanted pulse generator (IPG) causes interference with neural activity.
- B. the corpus callosum was severed, eliminating all communication between the two hemispheres.
- C. the corpus callosum was severed, preventing communication at the higher cortical levels.
- D. the two hemispheres were separated at the subcortical level.

Question 31

During the study following her surgery, a picture of an apple was very briefly shown in Emily's left visual field, but Emily was unable to say what it was. This was because

- A. communication between the right and left hemispheres was compromised.
- B. the image was processed in the left hemisphere and so could not be named.
- C. the image was processed in the right hemisphere and so could not be named.
- D. the image was processed in the left visual cortex but this is not a language centre.

Question 32

A real apple was placed behind a screen and Emily was asked to reach through the screen and touch it with her right hand. The most likely outcome of this is

- A.** Emily would be able to say that it was an apple because the sensory information would be sent to the left hemisphere.
- B.** Emily would not be able to say that it was an apple because the sensory information would be processed in the right hemisphere.
- C.** Emily would not be able to say that it was an apple because language centres are removed during this form of surgery.
- D.** Emily would not be able to say that it was an apple because the sensory information would not be transmitted to the left hemisphere.

Question 33

Which of the following is **not** a limitation of generalising results of the studies by Sperry and Gazzaniga to the wider population?

- A.** Left-handed people may have their language centres in either the right or left hemispheres.
- B.** Epilepsy negatively affected the patient's ability to learn the names of common everyday objects during their early childhood.
- C.** All of the patients who were studied had suffered from severe epilepsy and this may have affected their test performance.
- D.** All of the patients were on long-term medication, which may have affected their test performance.

Question 34

Davina was involved in a psychology experiment that tested reaction time. She was required to press either a red or green button in response to images flashed on to a computer screen, to indicate whether she saw a mammal (green button) or a bird (red button). Each image remained on the screen for just 0.1 seconds and the images were spaced 0.5 seconds apart. Each image would first be received in Davina's _____ memory where it would remain for _____ seconds.

- A. echoic, 0.03
- B. iconic, 0.03
- C. echoic, 0.3
- D. iconic, 0.3

Question 35

In order to select the correct button to push (red or green) Davina would need to draw on her _____ memory.

- A. episodic
- B. declarative
- C. semantic
- D. procedural

Question 36

In the experimental data collection sheets, Davina was identified as 'Participant 1' and she was required by the researchers to sign a document setting out her rights, roles and any risks involved in the experiment. Which of the following ethical considerations would best describe these two features of the research?

- A. confidentiality, debriefing
- B. confidentiality, informed consent
- C. privacy, voluntary participation
- D. voluntary participation, debriefing

Question 37

Davis was very interested in steam trains and, in order to remember the names of the different engines, he made up a story using all of the names. He hoped that when he recalled the story he would easily remember all of the engine names. This method of storing information relies upon _____ and is a form of mnemonic known as _____.

- A. elaborative rehearsal, narrative chaining
- B. elaborative rehearsal, an acrostic
- C. maintenance rehearsal, narrative chaining
- D. maintenance rehearsal, an acrostic

Question 38

According to Baddeley and Hitch's model of working memory, when retrieving words from LTM in order to link these to the names of the steam engines, Davis was using his

- A. central executive.
- B. visuospatial sketchpad.
- C. episodic buffer.
- D. phonological loop.

Question 39

According to the Levels of Processing theory proposed by Craik and Lockhart (1972), the type of encoding used by Davis to memorise the engine names (as explained in Question 37) was _____, which would involve a _____ level of processing.

- A. structural, shallow
- B. structural, moderate
- C. phonemic, deep
- D. semantic, deep

Question 40

When stimulating the neurons of the Aplysia with a glass rod, Eric Kandel and colleagues found that physical changes occurred at the neuronal level and these resulted in learned behaviour. This occurred because

- A. following learning, the pre-synaptic neurons were more likely to release neurotransmitters, thus stimulating post-synaptic neurons.
- B. following learning, the post-synaptic neurons were more likely to release neurotransmitters, thus stimulating pre-synaptic neurons.
- C. following learning, the pre-synaptic neurons were less likely to release neurotransmitters, thus stimulating post-synaptic neurons.
- D. following learning, the pre-synaptic neurons were more likely to release neurotransmitters, thus inhibiting the firing of post-synaptic neurons.

Question 41

Another way of explaining the findings in Question 40 is to say that there is an increased tendency for neurons to fire after they have been stimulated by other neurons. This is known as

- A. neuronal strengthening.
- B. long-term potentiation.
- C. long-term memory formation.
- D. post-synaptic potentiation.

Question 42

Keith was learning to ride his bike and, after a few falls, managed to stay upright. The more he practised, the better he became at riding, until he could ride without having to think about how to do it. The two areas of the brain responsible for this form of memory formation are

- A. the hippocampus and the cerebellum.
- B. the occipital lobes and the cerebellum.
- C. the cerebrum and the basal ganglia.
- D. the basal ganglia and the amygdala.

Question 43

As Keith ages it is likely that his ability to ride a bike will not be forgotten because

- A. older people perform equally well as younger people on declarative memory tasks.
- B. older people perform equally well as younger people on procedural memory tasks.
- C. older people have little trouble retrieving explicit memories.
- D. older people have little trouble retrieving episodic memories.

Question 44

The amygdala and the hippocampus are located in

- A. the mid-brain.
- B. the medial temporal lobe.
- C. the cerebellum.
- D. the frontal lobe.

Question 45

The theory that proposes that memories must have time to stabilise if long-term memories are to be formed is known as the _____ theory and the structure most important for this process is the _____.

- A. consolidation, hippocampus
- B. consolidation, amygdala
- C. semantic network, hippocampus
- D. semantic network, amygdala

END OF SECTION A

END OF SECTION A

SECTION B – Short-answer questions**Instructions for Section B**

Write all responses in the spaces provided, using a blue or black pen.

Question 1

Taji was having trouble sleeping so his doctor referred him to a sleep laboratory where various physiological measurements were taken while he slept.

- a.** One of the measured responses recorded body temperature. How can this indicate what stage of sleep a person is in?

1 mark

- b.** Taji's doctor wanted to collect data related to Taji's eye movements and brain activity while he slept. **Identify** and **explain** the function of the two main devices that would be used to collect this data.

4 marks

Question 2

What does the galvanic skin response measure and how can this be used to indicate a person's state of consciousness?

3 marks

Question 3

Thomas has just bought the game 'Grand Theft Auto' and is trying really hard to master each level.

- a. Explain** this behaviour in terms of Thomas' state of consciousness and how the reticular activating system (RAS) would respond as Thomas plays the game. In your answer, refer to the specific functions and structures of the RAS as he plays.

4 marks

- b. Explain** the role of Thomas' somatic nervous system as he plays the game.

2 marks

Question 4

Identify and **explain** the main functions of the somatic and autonomic nervous systems.

3 marks

Question 5

Alcohol can have negative effects on us at a psychological and physiological level. **Identify** and **explain** one long-term negative psychological effect of alcohol abuse and one long-term negative physiological effect of alcohol abuse.

Psychological :

Physiological:

4 marks

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Question 6

Krishna was diagnosed with spatial neglect.

- a. **Identify** the most likely cause of this condition.

1 mark

- b. **Explain** how this condition is commonly experienced.

1 mark

- c. Fully **explain** how PET scanning could be used to diagnose this condition. In your answer, identify precisely what the scan would show and what part of the brain would be examined.

3 marks

Question 7

In the table below, **identify** the names of the three memory stores in the Atkinson–Shiffrin multi-store model of human memory, and the relative capacity and duration of each.

Name	Capacity	Duration

3 marks

Question 8

Identify the three main functions of the central executive in the Baddeley and Hitch model of working memory.

3 marks

Question 9

- a.** Explain how Alzheimer's disease involves both anterograde and retrograde amnesia.

2 marks

- b.** How can MRI be used to help diagnose Alzheimer's disease?

1 mark

END OF SECTION B**END OF SECTION B
TURN OVER**

END OF SECTION C

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